REMARKS/ARGUMENTS

Reconsideration of the above-referenced application in view of the above amendment, and of the following remarks, is respectfully requested.

Claims 1-3, 5-12, and 15-22 are pending in this case. Claims 18-22 are added herein and claims 4, 13, and 14 are cancelled herein.

The Examiner rejected claims 1-3, 5-12 and 15-17 under 35 U.S.C. § 103(a) as being unpatentable over Tsukazaki et al. (U.S. 5,837,094) in view of Hoekstra et al. (U.S. 5,542,146).

Applicant respectfully submits that claim 1 is patentable over the references as there is no disclosure or suggestion in the references of a particle detection and removal system comprising a sample port and a vacuum source having a vacuum port, wherein a diameter of the sample port is smaller than a diameter of the vacuum port in addition to a particle sensor connected between the vacuum source and the sample port. Tsukazaki et al teach a particle monitor in an exhaust system for a semiconductor manufacturing apparatus for detecting an endpoint of a plasma etching or plasma cleaning process. As noted by the Examiner, Tsukazaki does not teach a sample port having a smaller diameter that the vacuum port. Hoekstra et al teaches a vacuum cleaner having a canister with an intake port 162 and a wand 26. The Examiner argues that "Hoekstra et al discloses that in a vacuum system the diameter of a sample port (Tsukazaki et al 26) is smaller that a diameter of a vacuum port (Tsukazaki et al 162) because it increases suction power." Applicant can find no such teaching in Hoekstra. Accordingly, Applicant submits that the references provide no motivation for one of

ordinary skill in the art to modify the particle sensor/exhaust configuration of Tsukazaki to include a sample port having a smaller diameter than a vacuum port. Applicant respectfully submits that claim 1 and the claims dependent thereon are patentable over the references.

Moreover, Applicant respectfully submits that one of ordinary skill in the art of semiconductor manufacturing equipment would not look to a consumer household vacuum cleaner when designing semiconductor manufacturing equipment.

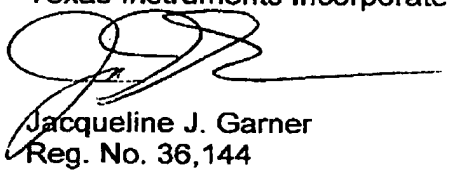
Applicant respectfully submits that claim 9 and the claims dependent thereon are patentable over the references for similar reasons to those discussed above relative to claim 1. There is no disclosure or suggestion in the references of a first vacuum hose for connection to a vacuum source, a second, smaller diameter, vacuum hose having a cleaning port for connection to the wafer fabrication equipment and a particle sensor connected between the first vacuum hose and the second vacuum hose.

Moreover, Applicant respectfully submits that there is no disclosure or suggestion in the references of a particle detection and removal system comprising a portable cart as required by claim 9. The particle sensor of Tsukazaki is attached to and part of the semiconductor manufacturing apparatus. It is used to detect an endpoint of a plasma etching or plasma cleaning operation and is part of the normal operation of the apparatus. While the vacuum of Hoekstra is portable, there is no suggestion to modify the particle sensor/exhaust system of Tsukazaki to make it portable. The exhaust system is part of the apparatus and needed for proper operation. The suggestion for a portable particle detection and removal apparatus is only provided by the instant application. Accordingly, Applicant respectfully submits that claim 9 and the claims dependent thereon are further patentable over the references.

the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,

Texas Instruments Incorporated



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